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EXAMINER				
AFOLAB1, MARK O				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/533,228

**Applicant(s)**

HUNDSCHIEDT ET AL.

**Examiner**

MARK O. AFOLABI

**Art Unit**

2454

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/21/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This communication is considered fully responsive to the Amendment filed on 10/21/2008 for the patent application 10/533,228 filed 10/17/2003. Claim 17 is amended and all the claims 1-23 have been examined and remain pending.
2. In this particular case, action was mailed 07/21/2008 the only communication after that is dated 10/21/2008, which is the request for reconsideration.

### **Drawings**

3. Acknowledgement is made of applicant's amendment to drawings previously objected to provide sufficient quality to permit examination, objection is hereby withdrawn.

### **Specification**

4. Acknowledgement is made of applicant's amendment to abstract previously objected to due to improper language, objection is hereby withdrawn.
5. Acknowledgement is made of applicant's amendment to specification previously objected to due to the improper arrangement, objection is hereby withdrawn.

### **Claim Objections**

6. Acknowledgement is made to applicant's response to previous objections to claims 10, 13, and 15-19, which are due to improper form of dependent claims. As clarified by applicant a preliminary amendment was submitted. Hence, objection is hereby withdrawn.

***Response to Arguments***

7. Applicant's arguments filed on 21 October 2008 with respect to claims 1-23 have been fully considered:

**8. Applicant's arguments regarding rejection of claims 1, 4, 9, 11, 20, 21, 22 and 23 rejected under 35 U.S.C. 102(b) has been considered.**

Applicant's argument regarding claims 1, 4, 9, 11, 20, 21, 22 and 23 are deemed persuasive. Rejection to claims 1, 4, 9, 11, 20, 21, 22 and 23 under 35 U.S.C. 102(b) has been withdrawn. Specifically, applicant argues that independent claim 1 recites a link between a multi-user communications to a number of clients. Hence, new rejections are set forth as follows.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-15, 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Navin Chaddha (2003/0061368) (Chaddha hereafter) and Siamak Naghian (2004/0102195) (Naghian hereafter)

**Regarding claim 1, Chaddha teaches**

providing information on distribution characteristics between the server (item 210 "Web Server" of Fig. 2) and the clients (items 231..239, "Client Computers" of Fig. 2);

sending a data stream containing the multi-user multimedia data from the server (item 210 "Web Server" of Fig. 2) to the clients (e.g., a multimedia stream being transmitted, via a single multicast group, from a server 210 to one or more of client computers 231, 232, . . . , 239. As discussed above, server 210 may optionally send information about the content of the multimedia stream to client computers 231, 232 ... 239, [0063], Chaddha);

sending the aggregated feedback report to the server (e.g., Client computer 231 also provides feedback on the use of and/or need for the multimedia to server 210, [0067]); and

adapting the transmission of the data stream from the server to the clients according to the aggregated feedback report (e.g., server 210 adaptively right-sizes the multimedia data stream in response to the feedback from client computers 231, 232, . . . 239 (step 930), [0065 and 0068], Chaddha),

wherein said feedback report includes information about aggregation fashion (e.g., the server streams the multimedia data to the client

computers via a multicast group address. Upon receiving the multimedia data or information about the multimedia data, the client computers provide feedback about the usage and/or need for the multimedia data to the server. Feedback enables the server to dynamically adapt the multimedia data to optimally utilize the network bandwidth and to match the needs of the client computers, accomplished by right-sizing, e.g., grow and/or prune, the multimedia data, [0011], Chaddha);

Chaddha does not explicitly teach determining the distribution characteristics associated with the clients, generating an aggregated feedback report on the clients' reception conditions of the data stream considering the distribution characteristics

However, Naghian discloses determining the distribution characteristics associated with the clients (e.g., this information may be broadcast via all related radio cells (i.e. in cells that provide a full or at least a partial coverage of the geographical area) or via predefined related radio cells, [0093], Naghian);

generating an aggregated feedback report on the clients' reception conditions of the data stream considering the distribution characteristics [e.g., achievable measurement accuracy, [0093], Naghian],

Hence, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine Chaddha's techniques for providing multi-user multimedia data to clients with Naghian's teaching for the benefit of utilizing a location service assistance data that may be broadcast over a wide geographical area of the radio network, even within the service area of different radio access network controllers. The cell broadcast services may be improved and made more advanced based on the available location data of the mobile station in a serving control node or a gateway location service node ([0018], Naghian).

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**Regarding Claim 2**, wherein the distribution characteristics are related to a geographical area including a group of clients (e.g., a service provider may define geographical areas where certain services or service aspects are available to those mobile stations only that are located inside this geographical area. The service provider sets the information about the geographical areas in the CBC 1. The CBC 1 may then broadcast this information over all radio cells that cover at least parts of this geographical area. The mobile station or the network may determine the position of the mobile station regularly and notify the service provider or LCS client when the mobile station enters the defined geographical area and/or leaves the geographical area, [0092], Naghian)

**Regarding Claim 3**, wherein the geographical area is covered by one or more cells in a wireless communication network (e.g., The location of the mobile station 7 may thus vary in time as the mobile station is free to move from one location (base station coverage area or cell coverage area) to another location (to another coverage area) and also within one coverage area. The geographical location of a mobile station may be defined on the basis of the position of the mobile station relative to the base station(s) of the mobile telecommunications network., 0030, Naghian)

**Regarding Claim 4**, wherein the distribution characteristics are related to a determined multicast group structure (e.g., the present invention relates to the

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efficient delivery of multimedia data to multicast group(s) over a diverse computer network, [0003], Chaddha).

**Regarding Claim 5**, wherein the distribution characteristics are related to information received from a radio resource management (e.g., the mobile station location data may be utilized for optimizing radio resource management mechanism of the communication system, [0051 and 0052], Naghian).

**Regarding Claim 6**, wherein the information received from the radio resource management are sent either frequently or event-based (e.g., radio resource management tasks relates to handoff of mobile stations between base stations. The location assistance data may be applied for optimizing the handoff events, [0052], Naghian).

**Regarding Claim 7**, wherein the distribution characteristics are related to information received from the clients (e.g., Bandwidth requirements can vary significantly depending on the content of multimedia data being delivered and computational capacity of the client computers receiving the multimedia data, [0005], Chaddha).

**Regarding Claim 8**, wherein the information received from the clients are sent either frequently or event-based (e.g., Hence, the ability to efficiently deliver multimedia data to a number of client computers over the internet is limited by how the available bandwidth capacity of the network is utilized to provide video information to a diverse group of client computer, [0005 and 0006], Chaddha).



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**Regarding Claim 9**, wherein the feedback reports from the clients are suppressed in the network terminals (e.g., the server is incapable of adapting to the actual needs of individual and/or subgroups of client computers. Packets carrying less important bits are sent to client computers so long as the corresponding portion of the network is capable of carrying the additional information, [0007], Chaddha)

**Regarding Claim 10**, wherein the information received from the clients impacts information from the radio resource management (e.g., the node 22 is arranged to receive location information directly from the radio access network controller 10. The gateway location service node 12 is implemented in the core network 24 of the system. The node 12 is arranged to receive location information from the radio access network 20 via the MSC 11 and/or SGSN 9 connected by the appropriate interface means to the access network 20. The positioning information is obtained using one or more of the appropriate techniques some of which will be briefly discussed below or any other suitable technique. This information may be processed in a predefined manner and is then provided to the internal or external clients, [0034], Naghian).

**Regarding Claim 11**, wherein the information about aggregation fashion includes a number of clients to which the aggregated feedback report applies (e.g., server 210 receives selection(s) of one or both multicast groups from one or more of client computers 231, 232, . . . 239 (step 1130). Server 210 adaptively right-sizes the multimedia data stream in response to the feedback from client computers 231, 232 . . . 239 (step 1140). **As** discussed above, right-sizing is the process

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of pruning and/or growing the multimedia data stream to better match the usage of the streams with the needs of client computers 231,232, . . . 239, [0070], Chaddha).

**Regarding Claim 12**, wherein the additional information about aggregation fashion (e.g., Despite the requirement of additional resources, [0011-0012], Naghian) comprises radio characteristics of an access network in which the clients are (e.g., the saved resources may be used for other purposes. The location service assistance data may be broadcast over a wide geographical area of the radio network, even within the service area of different radio access network controllers. The cell broadcast services may be improved and made more advanced based on the available location data of the mobile station in a serving control node or a gateway location service node, [0018], Naghian).

**Regarding Claim 13**, wherein the additional information about aggregation fashion comprises information about the adaptation manner (e.g., server streams the multimedia data to the client computers via a multicast group address. Upon receiving the multimedia data or information about the multimedia data, the client computers provide feedback about the usage and/or need for the multimedia data to the server. Feedback enables the server to dynamically adapt the multimedia data to optimally utilize the network bandwidth and to match the needs of the client computers, [0011], Chaddha).

**Regarding Claim 14**, wherein a negotiation on the frequency of feedback reports from the clients and/or from the radio resource management to the intermediate node is

performed (e.g., the mobile station location data may be utilized for optimizing radio resource management mechanism of the communication system. This can be achieved by means of interoperation between the radio access controller function and network planning, [0051], Naghian)

**Regarding Claim 15**, wherein the terminals refrain from sending feedback reports to other terminals receiving the data stream (e.g., a more efficient method is to multicast "blindly" over the network without any feedback from the client computers. in a manner similar to a wireless television broadcast, [0006], Chaddha).

**Regarding Claim 17**, wherein by receiving the aggregated feedback report the source utilizes the information included in the report considering the percentage of the clients for which said feedback applies wherein the stream is adapted to reduce bit rate or switch to a more reliable codec (e.g., Upon receiving the multimedia data or information about the multimedia data, the client computers provide feedback about the usage and/or need for the multimedia data to the server. Feedback enables the server to dynamically adapt the multimedia data to optimally utilize the network bandwidth and to match the needs of the client computers, accomplished by right-sizing, e.g., grow and/or prune, the multimedia data, abstract and [0005], Chaddha).

**Regarding Claim 18**, wherein the generation of the aggregated feedback report (e.g., Upon receiving the multimedia data or information about the multimedia data, the client computers provide feedback about the usage and/or need for the multimedia data to the server, [0011],

Chaddha) and the determining of distribution characteristics associated with the clients are either performed in a same node being the intermediate network part or are split between different nodes forming the intermediate network part (e.g., the location service assistance data may be broadcast over a wide geographical area of the radio network, even within the service area of different radio access network controllers. The cell broadcast services may be improved and made more advanced based on the available location data of the mobile station in a serving control node or a gateway location service node, [0018], Naghian)

**Regarding Claim 19**, wherein the transmission of data stream is performed by means of RTP having a control protocol RTCP for reporting feedback (e.g. source packetizer 814 packages the embedded bit-stream into a number of embedded video stream packets based on RTP protocol and appends the respective packet headers, [0051], Chaddha).

**Regarding Claim 20:**

An intermediate network part for adapting a multi-user data stream in a communication system with a server providing the multi-user data stream to clients, the network part comprising [Fig. 2, Chaddha]:

wherein said intermediate network part is arranged to provide information on distribution characteristics between the server and the clients and wherein said intermediate network part further comprises:

means (e.g., 220 of Fig. 2, Chaddha) for forwarding the data stream from the server to the clients (e.g., Server 210 and client computer 231 are coupled to each other via computer network 220 which supports

multicast addresses and multiple multicasts, [0048 and 0038], Chaddha);

means (radio cell of Fig. 7, Naghian) for determining of the distribution characteristics associated with the clients (e.g., [0093 and 0096], Naghian);

means (e.g., item-1020 of Fig. 10, Chaddha) for generating an aggregated feedback report on the clients' reception conditions of the data stream considering the distribution characteristics, wherein said feedback reports include additional information about aggregation fashion (e.g., server 210 adaptively right-sizes the multimedia data stream in response to the feedback from client computers 231, 232, . . . 239 (step 930). Right-sizing is the process of pruning and/or growing the multimedia data stream to better match the usage of the streams with the needs of client computers 231, 232, . . . 239, [0065], Chaddha); and

means (e.g., item-1010 of Fig. 10 and [0067]) for sending the aggregated feedback report to the server (e.g., Upon receiving the multimedia data or information about the multimedia data, the client computers provide feedback about the usage and/or need for the multimedia data to the server, [0011 and 0064], Chaddha).

**Regarding Claim 21**, having all the means implemented in a same network node (e.g., the network may also include nodes for storing information of mobile stations subscribing the network or visiting the network, such as appropriate home location registers (HLR) and visitor location registers (VLR), [0005 and 0026].

**Regarding Claim 22**, wherein means (radio cell of Fig. 7, Naghian) for determining distribution characteristics associated with the clients (e.g., [0093 and 0096], Naghian) and the means (e.g., item-1020 of Fig. 10, Chaddha) for generating an aggregated feedback report are each incorporated in different nodes (e.g., Bandwidth scalability with an embedded bit stream can be accomplished using vector quantization (VQ). In one embodiment, a tree-structured VQ (TSVQ) successive approximation technique is implemented. Accordingly ... in a tree structure, each vector is successively mapped (from the root node) to the minimum distortion child node, thereby inducing a hierarchical partition, [0047 and 0046]

**Regarding Claim 23**, having means for receiving the external determined distribution characteristics associated with the clients (e.g., a location service element is typically adapted to process information that associates with the location of the mobile station in order to determine the geographical location of the mobile station. The client may be an external client or an internal clients, [0032 and 0033], Chaddha).

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Chaddha** (2003/0061368) and **Naghian** (2004/0102195) in view of Zhu et al. (5, 768,527) (Zhu hereafter).

**Regarding Claim 16:**

Wherein the generated aggregated feedback report includes a fraction of lost packets provided by the intermediate node depending on the current conditions of delivery, a highest sequence number the intermediate node has received, and an inter-arrival jitter provided by the intermediate node

**Chaddha and Naghian** teach all the limitations of claim 1 including generated aggregated feedback report (e.g., server 210 adaptively right-sizes the multimedia data stream in response to the feedback from client computers 231, 232, . . . 239 (step 930), [0065], Chaddha).

**However, Chaddha and Naghian** does not explicitly teach a fraction of lost packets provided by the intermediate node depending on the current conditions of delivery, a highest sequence number the intermediate node has received, and an inter-arrival jitter provided by the intermediate node.

**Zhu teaches** lost packets (e.g., col. 4, lines 15-41) provided by the intermediate node depending on the current conditions of delivery, a highest sequence number the intermediate node has received, and an inter-arrival jitter provided by the intermediate node (e.g., packet buffer (202) is operable coupled to receive a sequence of incoming packets...and is utilized for reordering out-of-sequence received packets, for performing packet loss detection and for generating a multimedia bit stream from the received packets. The packet processor (204) extracts the sequence number for each packet and determines whether or not packets have arrived in sequence. Sequence numbers are also used for packet loss detection, col. 4, line 4 through col. 5, line 6, particularly, lines 42-63).

Hence, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine Chaddha's and Naghian's techniques for providing multi-user multimedia data to clients with Zhu teaching for improving delay jitter in a multimedia. Furthermore, since the real-time multimedia requires continuous playback such delay jitter may lead to serious quality degradations due to buffer overflow or underflow in the client. In one-way of improving the multimedia streaming, for such delay jitter may be compensated by buffering a portion of the incoming stream prior to the start of playback, col. 1, lines 49-54, Zhu).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK O. AFOLABI whose telephone number is (571) 270-5627. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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